

Part 2 - Levin Proposal

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1 Attachment



Proposed Dredging Area.pdf

part 2 levin proposal. please confirm receipt.

sharon

Attachment 1

# 2009 Berth B Dredging Project

Lauritzen Channel  
Levin Richmond Terminal

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# Proposed Dredging Area



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# Project Parameters

- Dredging immediately necessary to recover channel depths of -32 feet along the Berth B face;
- Bathometric data (August 2008) indicates approximately 1,500 cubic yards of sediment to be removed as part of maintenance dredging project;
- Facility must remain operational during dredging project (i.e., no silt fence installations);
- Sediment contains hazardous waste levels of DDT from historical site operations and will require upland disposal;

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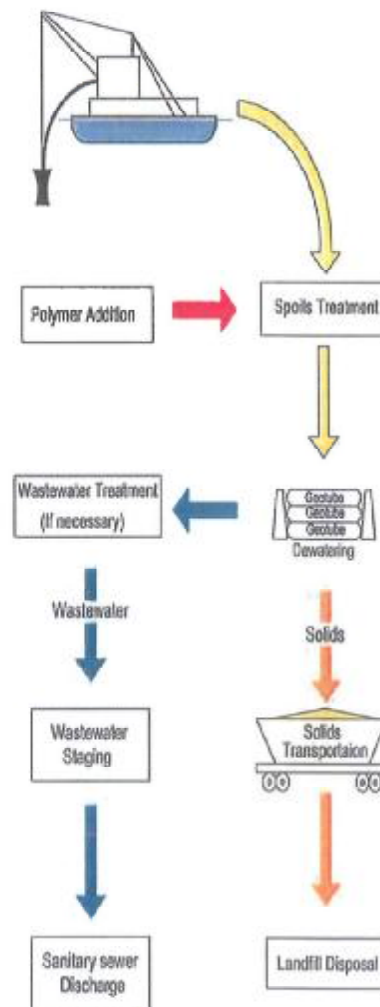
## Project Parameters (cont.)

- Dewatering of dredge spoils will be required prior to transport to an approved landfill facility;
- Limited on-site space available for dewatering operations and wastewater staging;
- Waste liquids generated during dredging must be appropriately managed.

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# Major Project Components

- Sediment Dredging
  - Low Turbidity Dredging
  - Environmental Monitoring
- Dredge Spoils Dewatering
  - Sludge Treatment
  - Dewatering
  - Wastewater Management
- Off-site Transfer and Landfill Disposal



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# Sediment Dredging

- Low-Turbidity Dredging Process
  - Toyo Dredge Pumps – Proven low turbidity technology for environmental sites
  - Variable flow rates possible to match dewatering process
  - Spoils composition ranges from 3:1 to 5:1 water to sediment
- Dredge equipment can be mounted either on a barge crane or use existing LRTC cranes



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# Spoils Dewatering

- Dewatering required to meet landfill disposal criteria
- Dewatering to occur at on-site upland location
- Addition of polymers will be required to facilitate timely dewatering of the fine-grained sediment



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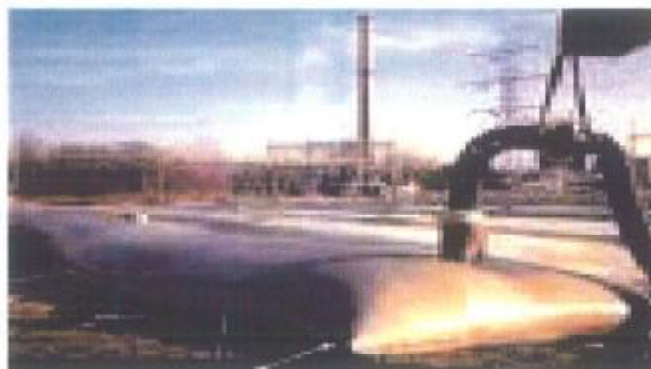
# Spoils Pre-Treatment

- Dredge spoils will be treated with polymers to aid in dewatering process;
- Polymers are fed automatically as dredge spoils are piped to geotubes;
- Polymer formulation to be determined by treatability tests conducted prior to initiation of dredging activities.

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# Dewatering

- Following pre-treatment, dredge spoils are placed in geotubes for dewatering;
- Geotubes will be manufactured to fit into upland dewatering area to maximize volume;
- Sediment will remain in geotube with wastewater passing thru geotube membrane;
- Wastewater is collected for treatment (if needed) and staging prior to sanitary sewer discharge.



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# Wastewater Management

- Treatment of wastewater will be determined based on pilot treatability testing and process monitoring;
- Wastewater will be staged in barges to allow for maximum dredging rates and continuous discharge to sanitary sewer;
- Discharge to sanitary sewer has been conceptually approved by the City of Richmond with the following discharge parameters:
  - 200 gallons per minute allowable discharge rate
  - Discharge can occur 24 hours per day/7 days a week
  - No limits specified for DDT, DDD, DDE or dieldrin although the City of Richmond's treatment plant's NPDES permit has a discharge limit to the Bay for DDD of 0.00084 mg/l.

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# Solids Management

- Landfill Disposal as Non-RCRA Hazardous Waste
- Transportation by Rail (to Out-of-State Facilities in Utah or Idaho) or By Truck (to California Landfill Locations)

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# Environmental Monitoring

- Environmental monitoring stations will be positioned at upstream and downstream locations within Santa Fe Channel ;
- Periodic samples will Be collected during dredging operations at three depth horizons (shallow, middle and bottom) within the water column.
- Samples will be analyzed for water quality (DO, turbidity, temp) and chemical (DDT, DDD, DDE and dieldrin) parameters.



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